

**(19) Korea patent office (KR) Unexamined Patent
Publication (A)**

(51) Int.Cl. 6 H04M 3/533

Application No	10-2001-0061247
Application Date	04/10/2001
Publication No	KR2003-0028945.
Publication Date	11/04/2003
Agent	Hong-Sik Jeong
Inventor	Yong-Uk Ha
Applicant	SAMSUNG ELECTRONICS CO., LTD.
Examination	ItEum
Title of Invention	MOBILE COMMUNICATION TERMINAL CAPABLE OF PERFORMING VOICE MESSAGE SERVICE AND VOICE MESSAGE SERVICING METHOD THEREOF

* Legal Status

Date of request for an examination	20011004
Notification date of refusal decision	00000000
Final disposal of an application	rejection
Date of final disposal of an application	20040105
Patent registration number	
Date of registration	00000000
Number of opposition against the grant of a patent	
Date of opposition against the grant of a patent	00000000
Number of trial against decision to refuse	
Date of requesting trial against decision to refuse	
Date of extinction of right	

 Abstract

Disclosed are the mobile communications terminal and the method for voice message service in which the voice message service is possible. The mobile communications terminal includes the function selection part providing the selectivity means about the voice message transmitting function. An originator uses the function selection part. The voice message can be transmitted to the message file the voice message is compacted. The called party terminal confirms the voice message which is generated the called party terminal is compression-released in VMS the called party terminal connects to the VMS (Voice Mail System). In other words, the voice message is confirmed it compression-releases in the called party terminal the voice message file compacted in the called party terminal is received from VMS. In the meantime, an originator transmits with VMS an originator converts the voice message into the digital format canning be transmitted. A receiver can corroborate the voice message from VMS a receiver connects to VMS it has the voice message delivery alert. Therefore, it is possible that an originator transmits the voice message without the call connection with a receiver in the called party terminal by including the function selection part.



Representative Drawing(s)

Fig. 3



Keyword(s)

The mobile communications terminal, voice message, VMS, call connection, message file, compression.



Description

■ Brief Explanation of the Drawing(s)

Figure 1 is a flowchart, which the block diagram , and fig. 2 show the Song / receiving method of the conventional voice message service the drawing, which fig. 3 shows the configuration of the basic in system for the voice message service the block diagram , which fig. 4 shows the basic configuration of the mobile communications terminal for the voice message service the block diagram, which fig. 5 shows the detailed construction of the transform unit of the mobile communications terminal for the voice message service the flowchart, which fig. 6 shows the method for voice message service the flowchart, which the drawing 7a shows the embodiment of the receiving method of the message file transmitted with the method for voice message service the block diagram which the drawing 7b shows the basic configuration of the called party terminal for the watch of the message file transmitted with the method for voice message service, and the flowchart which the drawing 7c shows another preferred embodiment of the receiving method of the message file transmitted with the method for voice message service showing the basic configuration of the mobile communications terminal in which the conventional voice message service is possible

Figure 8 is a flowchart, which the block diagram , and fig. 9 show the other method for the voice message service and the flowchart which fig. 10 shows the receiving process as the embodiment of the voice message service showing the other configuration of the mobile communications terminal for the voice message service.

The description of reference numerals of the main elements in drawings

310: sender 325: VMS.

330: called party terminal 410, 810: function selection part.

420, 820: input unit 430: buffer part.
 440: transform unit 442: a/D converter.
 444: file generator 446: compression part.
 450, 840: storage 480: song / receiver.
 490, 860: controller 710b: de-compressor.
 720b: digital analog converter.

■ Details of the Invention

■ Purpose of the Invention

* The Technical Field to which the Invention belongs and the Prior Art in that Field

The present invention relates to the voice message service of the mobile communications terminal, more particularly, to the function key equipped in the mobile communications terminal or the method for providing the voice message service by using a menu.

While use is generalized as the mobile communications terminal is rapidly distributed, originators desire the service more convenient and useful. Generally, the mobile communications terminal has the function of providing the additional service to an originator besides the telephone call service. In the additional service which an originator can use, it has the service through the cellular phone call, the short message service, the voice message service, an internet etc. As to this additional service, it is available if an originator applies for utilization in the communication service agency.

In a sense, the input rate is slow and troublesome when reporting the message of a bit long sentence or reporting the message of the Hangul · English mixing. Because of sending the information which the time to be short there is many, the voice message service is the suitable service this.

Figure 1 is a block diagram showing the basic configuration, and the flowchart which fig. 2 shows the Song / receiving method of the conventional voice message service of the mobile communications terminal in which the conventional voice message service is possible. Referring to figs. 1 and 2, the mobile communications terminal in which the conventional voice message service is possible has the input unit (110), the call connection part (120), the microphone (130), the Song / receiver (140) and controller (150).

The method for voice message service using the conventional mobile communications terminal is as follows. As to the input unit (110), the discrimination defense of the received side mobile terminal is input from an originator while being comprised of a plurality of buttons (S210). The call connection part (120) attempts the call connection with the received side mobile terminal (S220). At this time, if an opponent is a busy or the power source of the absence or the received side mobile terminal is OFF-state, the voice message recorded announcement broadcast is broadcasted. An originator can leave the voice message with a selection. An originator selects the voice message record button (S230). An originator records the voice message through the microphone (130) (S240). The Song / receiver (140) transmits the recorded voice with the VMS (Voice Mail System) of the mobile communications service provider (S250). A receiver listens to the voice message which connects to VMS of the mobile communications service provider if it is notified (S260) that the voice message arrived in the received side mobile terminal and is received (S270). The controller (150) outputs the control signal controlling the overall operation of each element.

But an originator can use the voice message service in other words the prior art is limited the prior art is a busy a receiver is an absence the power source of the mobile communications terminal of a receiver is OFF-state. That is, when an originator attempts the call establishment to a receiver and it call is not connected, the voice message can be left with the selection of an originator.

In a sense, it is usable in the time when firstly an originator telephones to a receiver even in case an originator does not desire the telephone call with a receiver or an originator directly wants to leave to a receiver only the voice message and the call does not form.

• The Technical Challenges of the Invention

It are an object of the present invention to provide the mobile communications terminal and the method for voice message service in which the voice message service leaving the voice message in the mobile communications terminal of a receiver is possible regardless of the state of the mobile communications terminal of a receiver according to the selection of an originator.

■ Structure & Operation of the Invention

The mobile communications terminal for achieving the technical problem described in the above provides the controller outputting the function selection part: input unit: transform unit: Song / receiver: transmitting the message file and the control signal which transmits the message file if the transfer instruction of the message file is input from an originator to the Song / receiver converts the voice message which is input from an originator into the message file the identification number of the called party terminal in which the voice message is received is input provides the selectivity means about the voice message transmitting function.

Circumstantially, the transform unit provides the A/D converter: converting the voice message which is input from an originator into the digital signal and the file generator converting the digital signal into the message file. Moreover, the transform unit more has the compression part compressing the message file and the storage storing the message file. And a controller outputs the control signal storing the message file in the storage according to the selection of an originator.

Furthermore, the buffer part temporary-saving the voice message which is input from an originator is more included. And an originator can listen to the voice message stored in the buffer part before the transmission of the message file.

The method for voice message service provides the step selected the voice message transmitting function, the step that the identification number of the called party terminal is input, the step that the voice message is input from an originator, the step converting the voice message into the message file, and the step transmitting the message file.

More concretely, the conversion step provides the step converting the voice message, and the step converting the digital signal into the message file. The step converting the voice message is input from an originator into the digital signal. Moreover, the conversion step more has the step compressing the transformed message file and the step storing the compacted message file.

The mobile communications terminal provides the controller outputting the function selection part: input unit: voice processor: transmit unit: transmitting the transformed voice message and the control signal which transmits the voice message if the transfer instruction of the voice message is input from an originator to the transmit unit converts the voice message inputted through a microphone the identification number of the called party terminal in which the voice message is received is input provides the selectivity means about the voice message transmitting function.

Preferably, it is possible that the storage storing the voice message is included. And an originator listens and after being transmitted before transmitting the stored voice message.

The method for voice message service provides the step attempted a connection with the voice mail, the step converting the voice message inputted through a microphone, and the step transmitting the transformed voice message the voice message transmitting function means is selected. Preferably, the conversion step more includes the step storing the voice message. And and after being transmitted before transmitting the stored voice message, an originator can listen.

According to the present invention, it is possible that the voice message is left according to the selection of an originator without the call connection process in the received side mobile terminal by including the selectivity means for sending the voice message to the mobile communications terminal.

Hereinafter, referring to the figure, the present invention is more circumstantially illustrated.

Figure 3 is a drawing showing the configuration of the basic in system for the voice message service.

Referring to Figure 3, in a case1, the mobile phone of sender (310) transmits the compacted message file (mes file com) with the VMS (325). As to the VMS (325) equipped in the mobile communications service provider (320), according to the telephone number of the received side mobile terminal (330) extracted from the received message file (mes file com), it notifies arrival of the voice message (ana vocie) to the received side mobile terminal (330). By using the received side mobile terminal (330), a receiver connects to the VMS (325) and a receiver listens to the voice message (ana vocie). A case2 is the case general of the message file (mes file com) transmitted with an originator nots being put through the VMS (325) and being directly transmitted to the received side mobile terminal (330) identically with wireless data. In the received side mobile terminal (330), a receiver lifts the compression and a receiver can listen to the voice message (ana voice). In a case3, if it connects to the VMS (325) and an originator records the voice message (ana vocie), the VMS (325) notifies of the arrival of the voice message (ana vocie) to the received side mobile terminal (330). A receiver connects to the VMS (325) and a receiver listens to the voice message (ana vocie).

Figure 4 is a block diagram showing the basic configuration of the mobile communications terminal for the voice message service according to the present invention. Referring to Figure 4, the mobile communications terminal has the function selection part (410), the input unit (420), the buffer part (430), the transform unit (440), the storage (450), the speaker (460), the effective display area (470), the Song / receiver (480) and controller (490).

The function selection part (410) provides the selectivity means about the voice message transmitting function. As to the function selection part (410), the service which does not attempt the call connection in the mobile communications terminal of a receiver and directly leaves the voice message is possible. That is, in case it does not want to talk over the telephone with a receiver and it leave only the voice message, an originator selects the function selection part (410) connected to the voice message service. It can be made of one among a menu displayed on the button, which the function selection part (410) is equipped in the mobile communications terminal of an originator the shortcut key, and LCD of the terminal.

As to the input unit (420), the identification number of the received side mobile terminal is input while being comprised of a plurality of buttons. An originator inputs the voice message (ana voice) which an originator leaves to a receiver through a microphone. As to the buffer part (430), the voice message (ana voice) which is input from an originator is temporarily stored. As to the voice message (ana voice) which is temporarily stored according to the selection of an originator, in the transform unit (440), before being transformed to the digital signal (dig vocie), before being transmitted through the Song / receiver (480), a reaffirmation becomes possible in other words.

Figure 5 is a block diagram showing the detail configuration of the transform unit of the mobile communications terminal for the voice message service according to the present invention. Referring to Figure 5, the transform

unit (440) has the A/D converter (442), and the file generator (444) and compression part (446).

The transform unit (440) converts the voice message (ana voice) which is input from an originator into the message file (mes file). The A/D converter (442) outputs to the file generator (444) the A/D converter (442) converts the voice message (ana voice) which is input from an originator into the digital signal (dig voice). The file generator (444) converts the inputted digital signal (dig voice) into the message file (mes file). The compression part (446) compresses the message file (mes file) inputted from the file generator (444) and it reduces the capacity of the message file (mes file). And it reduces the load in the message file (mes file com) electrical transmission compacted to the received side mobile terminal.

As to the storage (450), the message file (mes file) generated in the transform unit (440), and data received from the other mobile communications terminal are stored. In the storage (450), the message file (mes file) or the compacted message file (mes file com) can be stored. The speaker (460) outputs the voice message (ana voice), which is input from an originator the voice etc. received. The effective display area (470) displays data expressing the operation state of the mobile communications terminal by the key input of the display device like, consisting of LCD an originator or are received. The Song / receiver (480) transmits the message file (mes file) and/or data which is input from the function selection part (410), and the input unit (420) and transform unit (440) or the compacted message file (mes file com).

According to the selection of an originator the message file (mes file), the controller (490) sends the control signal stored in the storage (450). Moreover, the controller (490) outputs the control signal which transmits the message file (mes file) if the transfer instruction of the message file (mes file) is input from an originator to the Song / receiver (480).

Figure 6 is a flowchart showing the method for voice message service. Hereinafter, referring to Figure 6, more concretely, the method for voice message service is illustrated.

According to the selection of an originator, in case the call connection process wants to be omitted and the voice message wants to be left in the received side mobile terminal, an originator selects the function selection part (410) connected to the voice message service (S605). And in the input unit (420), the identification number distinguishing the mobile communications terminal of a receiver is inputted (S610). An originator inputs the voice message (ana voice) which an originator leaves to a receiver through a microphone (S615). Using the selection of an originator, the inputted voice message (ana voice) is temporarily stored in the buffer part (430) (S620, S625). If an originator desire (S630)s that an originator confirms the voice message (ana voice) which is temporarily stored and it re-records, it repeatedly can execute S630 step or S630 step.

In the S620 step, if the voice message (ana voice) is not temporary-saved or the repetition of the S615 step or the S630 step is finished. In the file generator (444), the digital signal (dig voice) is generated to the message file (mes file) (S640). The generated message file (mes file) is transmitted through the Song / receiver (480) (S655). In the meantime, the message file (mes file) can be compacted for a reduction and the efficient frequency usage of the transfer time before the electrical transmission (S645, S650).

Figure 7a is a flowchart showing the embodiment of the receiving method of the message file transmitted with the method for voice message service.

Referring to Figure 7a, if the compacted message file (mes file com) is transmitted in the mobile communications service corp., it lifts the compacted message file (mes file com) (S710a) and VMS equipped in the mobile communications service corp. produces the message file (mes file) (S720a). As to VMS of the mobile communications service corp, it notifies arrival of the voice message (ana voice) to the received side mobile terminal (S730a). If a receiver connects to VMS (S740a), it converts the message file (mes file) of the digital signal form into the analog signal and VMS transmits with the switch (S750a). Through this process, a receiver can listen to the voice message (ana voice) (S760a).

Figure 7b is a block diagram showing the basic configuration of the received side mobile terminal for the watch

of the message file transmitted with the method for voice message service. Figure 7c is a flowchart showing another preferred embodiment of the receiving method of the message file transmitted with the method for voice message service.

Referring to Figure 7b, the received side mobile terminal has the de-compressor (710b) and digital analog converter (720b). As to the de-compressor (710b), if the compacted message file (mes file com) is received, it lifts the compacted message file (mes file com) and it produces the message file (mes file). The digital analog converter (720b) converts the generated message file (mes file) into the voice message (ana voice).

Referring to Figure 7c, the compacted message file (mes file com) passes through the transit country from a sender and it is transmitted to the received side mobile terminal. If the arrival of the compacted message file (mes file com) informs the received side mobile terminal (S710c), it lifts the compression of the received message file (mes file com) and the received side mobile terminal produces the message file (mes file) (S720c). The message file (mes file) is transformed to the voice message (ana voice) through D / A conversion process (S730c). A receiver listens to the transformed voice message (ana voice) (S740c).

Figure 8 is a block diagram showing the other configuration of the mobile communications terminal for the voice message service. Figure 9 is a flowchart showing the other method for the voice message service.

Referring to figs. 8 and 9, the mobile communications terminal has the function selection part (810), input unit (820), voice processor (830), storage (840), transmit unit (850) and controller (860).

The function selection part (810) provides the selectivity means about the voice message transmitting function. According to the selection of an originator, in case the voice message wants to be left to a receiver without the call connection process, an originator selects the function selection part (810) connected to the voice mail (S910). It can be made of one among a menu displayed on the button, which the function selection part (810) is equipped in the mobile communications terminal of an originator the shortcut key, and LCD of the terminal.

The input unit (820) is comprised of a plurality of buttons. And the identification number of the terminal in which the voice message is received with an originator is input (S920). The voice message inputted through a microphone is transformed from the voice processor (830) to the form canning be transmitted with the control signal of the controller (860) (S930). If the storage is desired in the step (S940) determining the stored or not of the transformed voice message, an originator stores the transformed voice message in the storage (840) (S950). The stored voice message is transmitted to VMS of the mobile communications service corp. through the transmit unit (850) (S960). The voice message transformed from the S940 step does not pass through the storage step (S950) and it can be transmitted to VMS (S960).

Figure 10 is a flowchart showing the receiving process as the embodiment of the voice message service according to the present invention. Referring to Figure 10, the mobile communications service corp. notifies in the received side mobile terminal the voice message corresponding to the identification number of the received side mobile terminal was received (S1010) the voice message is received in VMS of the mobile communications service corp (S1020). A receiver inputs a password as many according to an announcement it tries to connect to VMS (S1030) the received voice message is confirmed. In VMS, if the number coincides with after confirming the number of the received side mobile terminal and password, the target voice message is transmitted to a receiver. A receiver can delete a receiver stores the sound message according to a selection a receiver listens to the target voice message (S1040).

According to the present invention, the identification number of the received side mobile terminal is the number distinguishing the received side mobile terminal in which the voice message is transmitted. It is not number for the call connection with the received side mobile terminal. That is, conventionally, it respects for the call connection with the received side mobile terminal and the identification number of the received side mobile terminal is inputted. In the other side, and the present invention, the identification number of the received side mobile terminal the system specify and which is the receiving side in which the voice message is delivered equipped in the mobile communications service provider is used in the use for routing the voice message to the

target receiver.

■ Effects of the Invention

According to the present invention, the voice message service is used. When an originator does not desire to speak by telephone with a receiver, the shortcut key equipped in the mobile communications terminal, and the specific function key or the set up in advance voice message menu are taken advantage of. The call connection can not be attempted to a receiver and the voice message service can be used. Moreover, since it is possible to confirm the voice message although a receiver does not attempt a connection in the communication service agency if an originator transmits with the mobile communications terminal of a receiver after an originator recording the voice and storing to the compressed file a receiver does not need to bear the fee for a telephone call for the voice message confirmation. Furthermore, an originator is not the mobile communications service corp. the voice message stored as the compressed file put through and it can be transmitted to the mobile communications terminal of a receiver. ***, an originator and receiver does not bear the voice message fee for a telephone call.

In the above, it showed and it illustrated for the preferred embodiment of the present invention. But the present invention is not restricted to the above-described specific embodiment. And if without deviating from the gist of the present invention claimed in the claims, it experiences and it grows up under the technical Field of the Invention, it is *** or an anyone that the various transformation execution is possible. It has within the range of that kind of the change silver claims material.

 Scope of Claims

Claim 1 :

The mobile communications terminal comprising: the controller outputting the function selection part: input unit: transform unit: Song / receiver: transmitting the message file and the control signal which transmits the message file if the transfer instruction of the message file is input from an originator to the Song / receiver converts the voice message which is input from an originator into the message file the identification number of the called party terminal in which the voice message is received is input provides the selectivity means about the voice message transmitting function.

Claim 2 :

The mobile communications terminal of claim 1, wherein the transform unit is further comprised of the A/D converter: converting the voice message which is input from an originator into the digital signal and the file generator converting the digital signal into the message file.

Claim 3 :

The mobile communications terminal which more includes the compression part of claim 2, wherein the transform unit compresses the message file.

Claim 4 :

The mobile communications terminal of claim 2 or 3, wherein a controller the storage storing the message file is more included outputs the control signal storing the message file in the storage according to the selection of an originator.

Claim 5 :

The mobile communications terminal which more includes the buffer part temporary-saving the voice message; and an originator can listen to the voice message stored in the buffer part before the transmission of the message file of claim 4, wherein it is input from an originator.

Claim 6 :

The method for voice message service including the step selected the voice message transmitting function, the step that the identification number of the called party terminal is input, the step that the voice message is input from an originator, the step converting the voice message into the message file, and the step transmitting the message file.

Claim 7 :

The method for voice message service of claim 6, wherein the conversion step includes the step converting the voice message, and the step converting the digital signal into the message file, and the step converting the voice message is input from an originator into the digital signal.

Claim 8 :

The method for voice message service of claim 6 or 7, wherein the conversion step is further comprised of the step compressing the transformed message file.

Claim 9 :

The method for voice message service of claim 8, further comprising the step storing the compacted message file.

Claim 10 :

The mobile communications terminal comprising: the controller outputting the function selection part: input unit: voice processor: transmit unit: transmitting the transformed voice message and the control signal which transmits the voice message if the transfer instruction of the voice message is input from an originator to the transmit unit converts the voice message inputted through a microphone the identification number of the called party terminal in which the voice message is received is input provides the selectivity means about the voice message transmitting function.

Claim 11 :

The mobile communications terminal which it more includes the storage; and an originator can listen and after being transmitted before transmitting the stored voice message of claim 10, wherein the voice message is stored.

Claim 12 :

The method for voice message service selecting the selectivity means about the voice message transmitting function and includes the step attempted a connection with the voice mail, the step converting the voice message inputted through a microphone, and the step transmitting the transformed voice message.

Claim 13 :

The method for voice message service of claim 12, wherein the conversion step more includes the step storing the voice message; and an originator can listen and after being transmitted before transmitting the stored voice message.



Drawings

Fig. 1

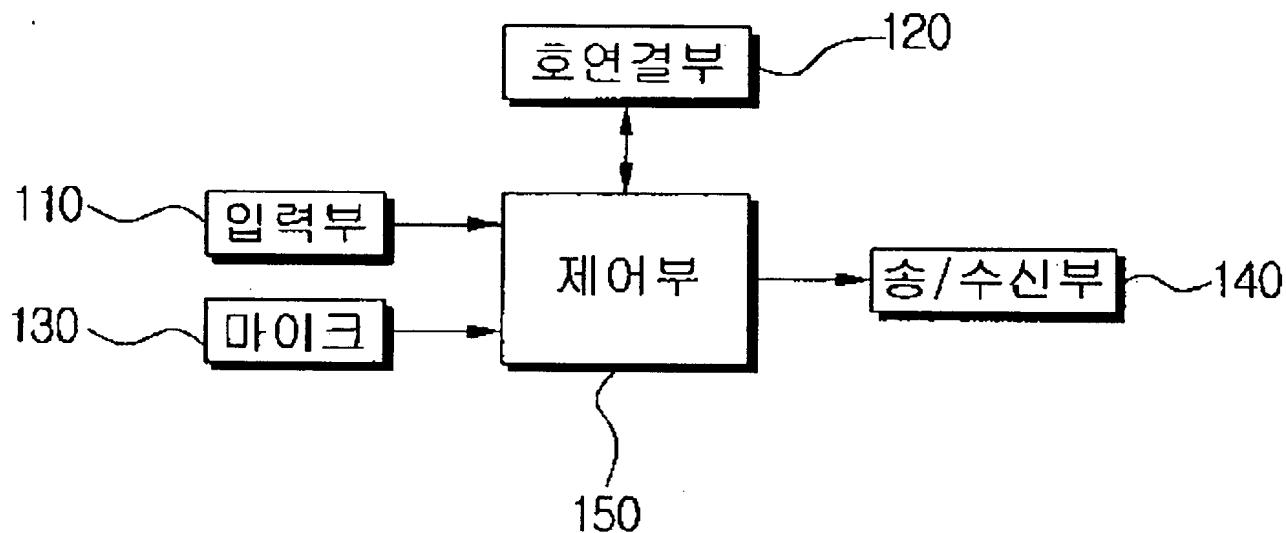


Fig. 2

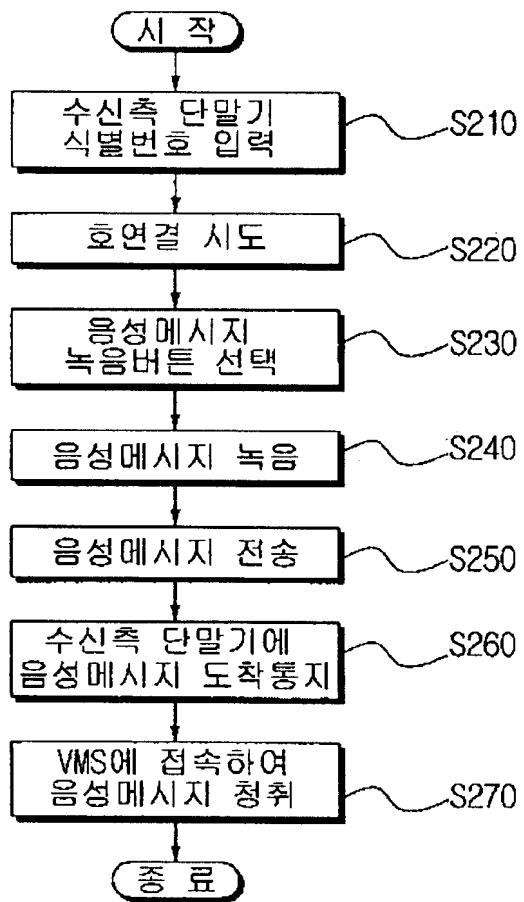


Fig. 3

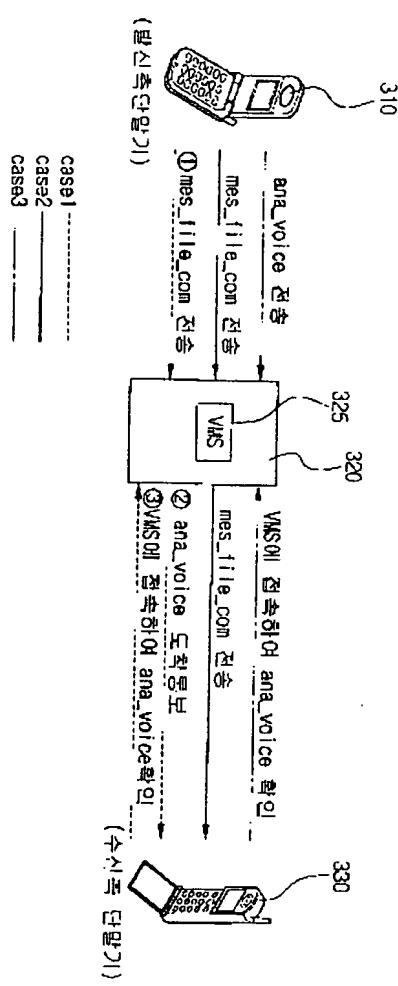


Fig. 4

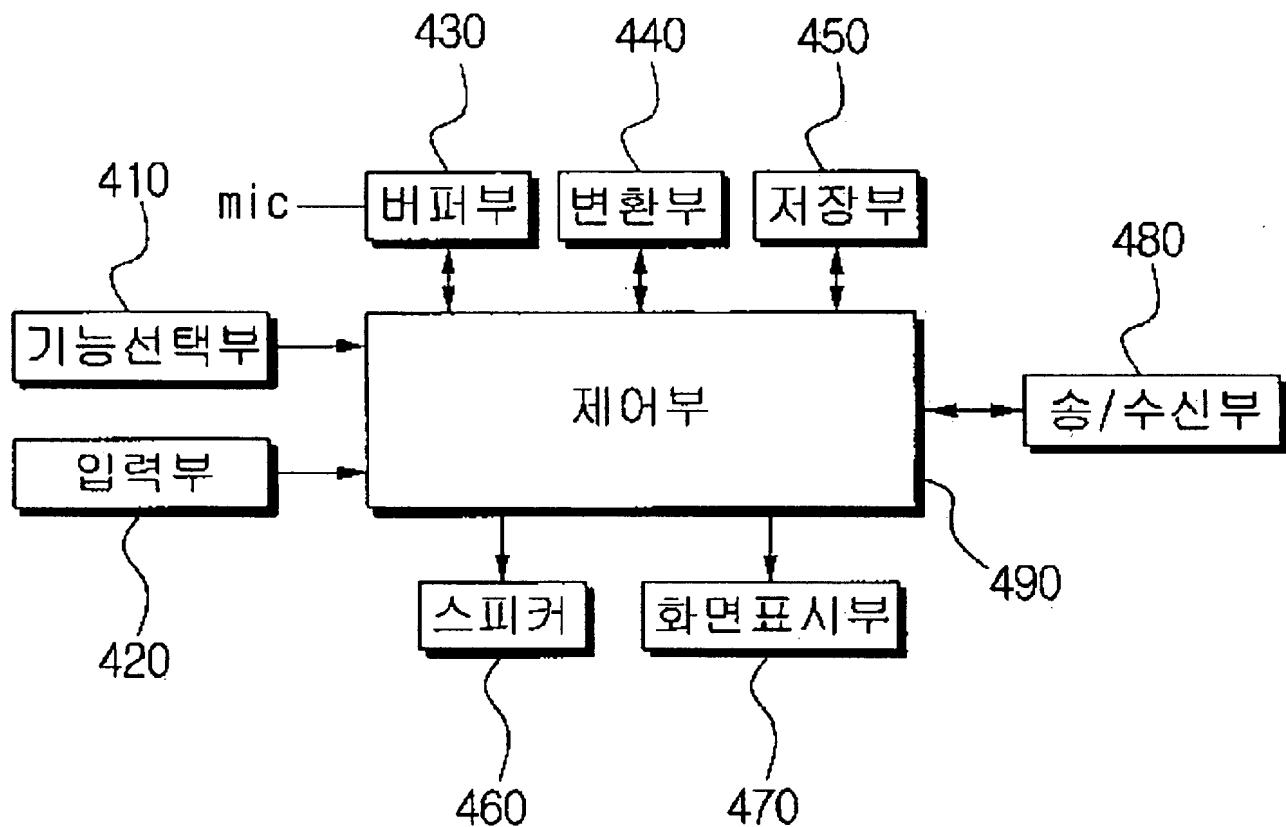


Fig. 5

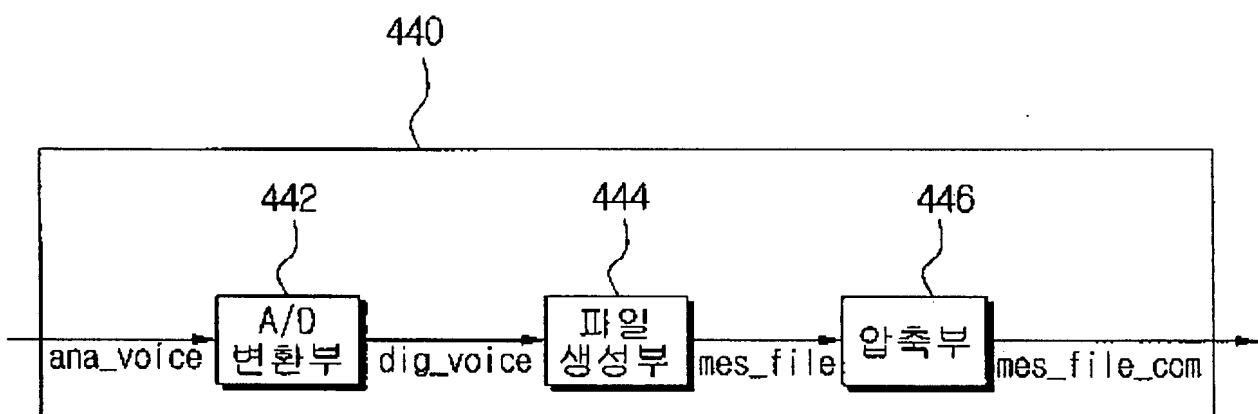


Fig. 6

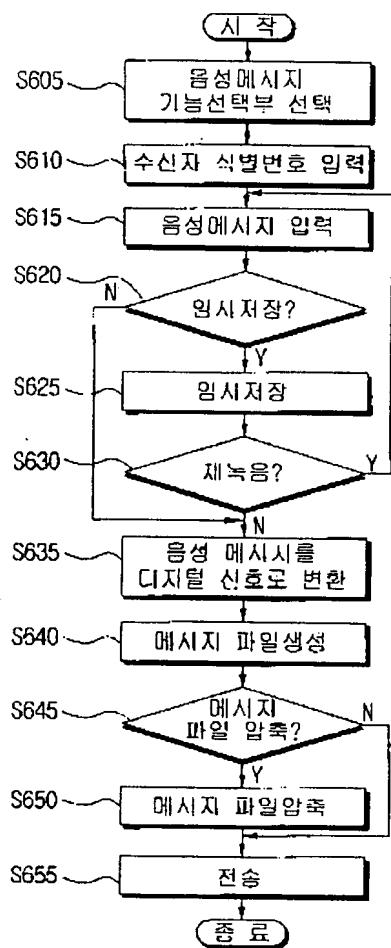


Fig. 7a

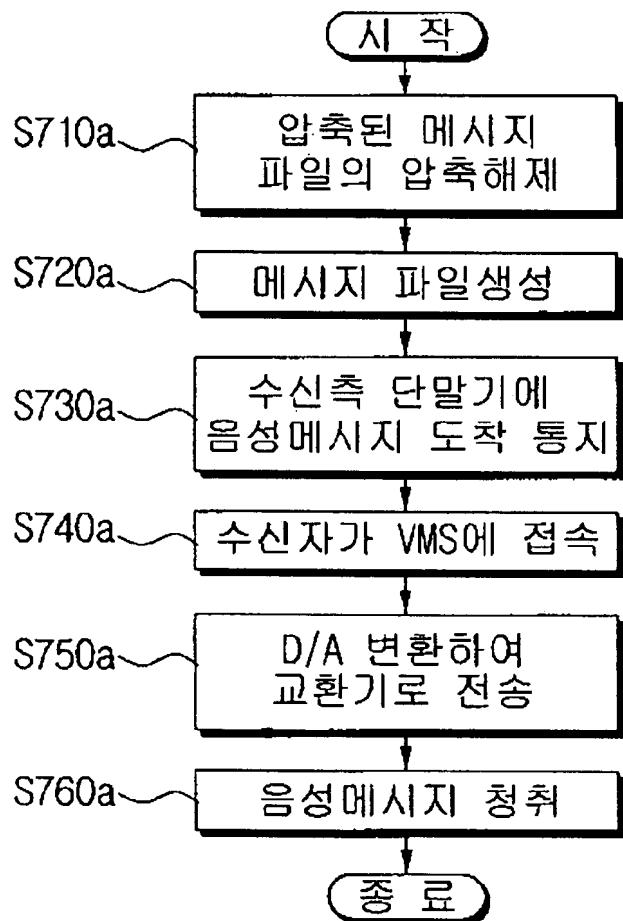


Fig. 7b

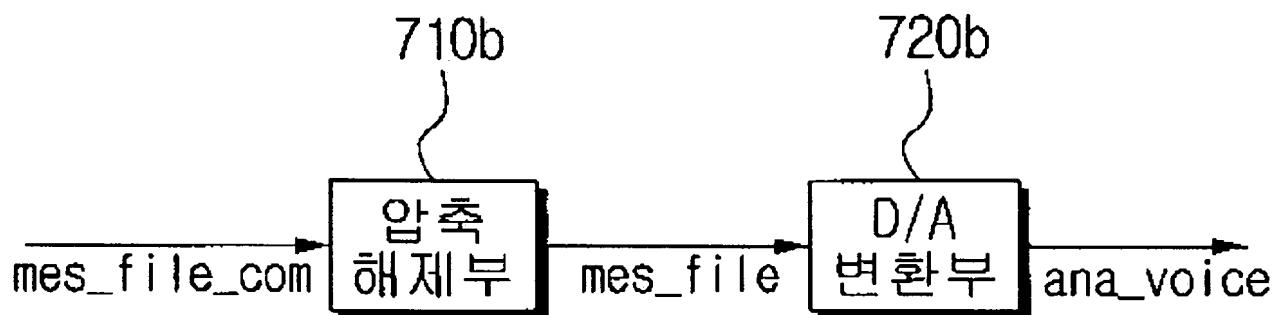


Fig. 7c

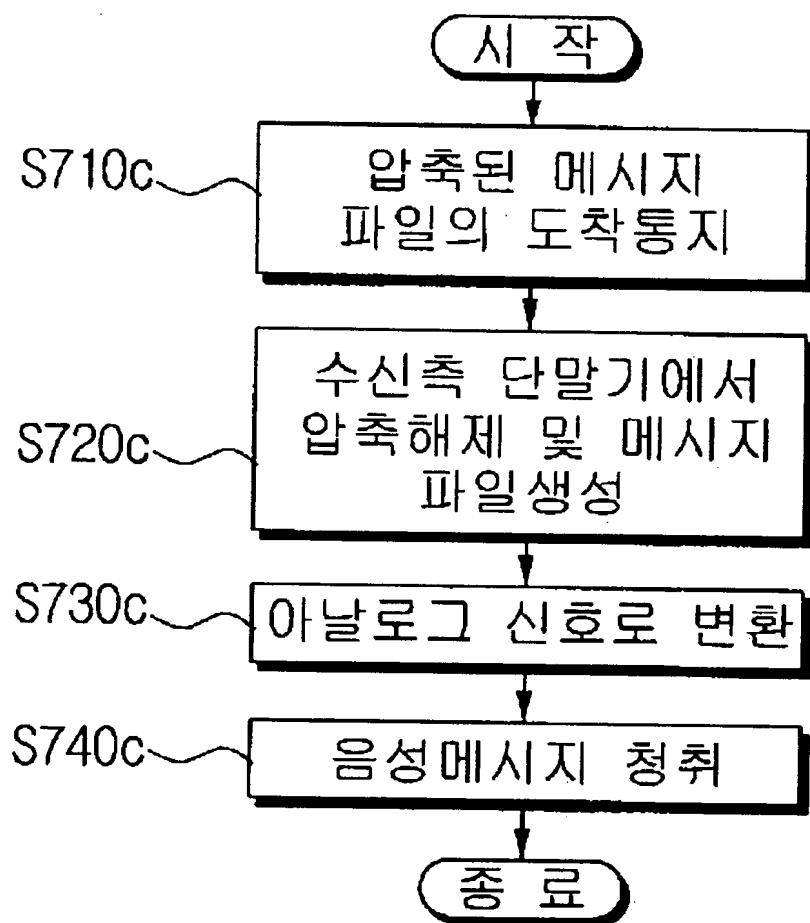


Fig. 8

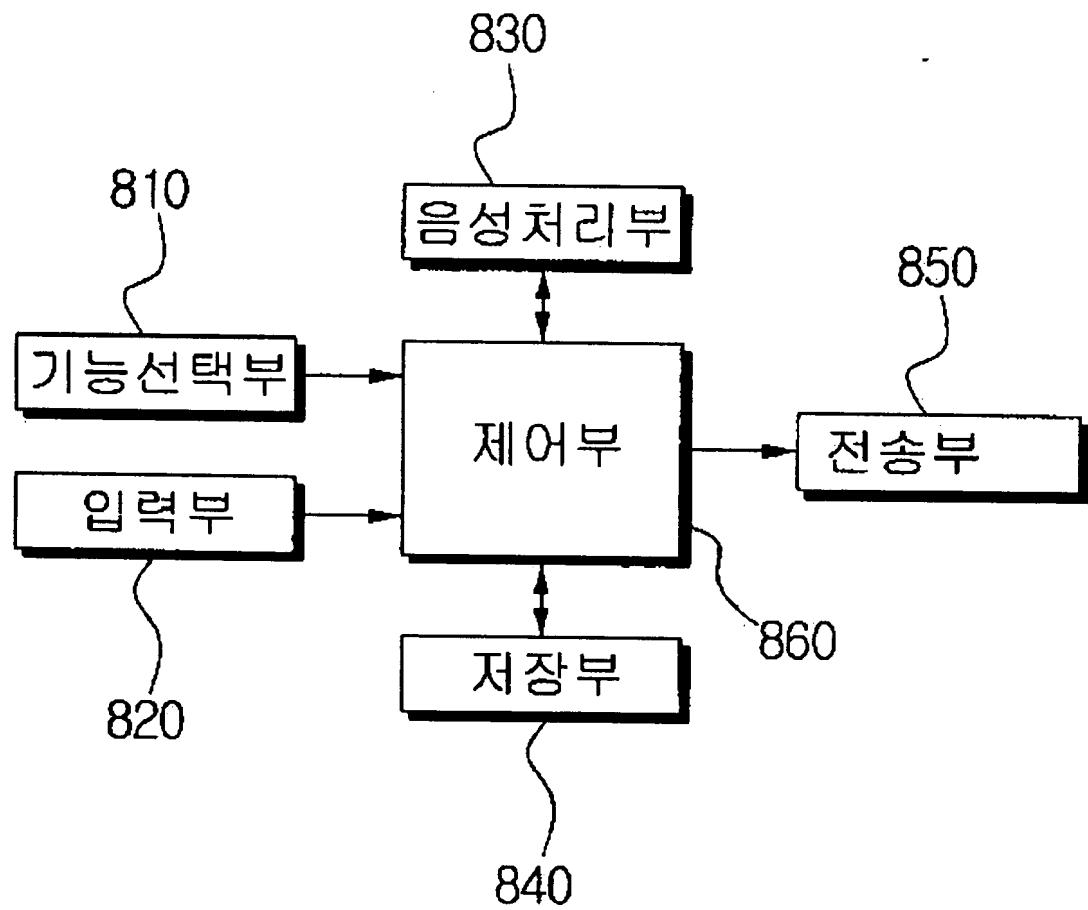


Fig. 9

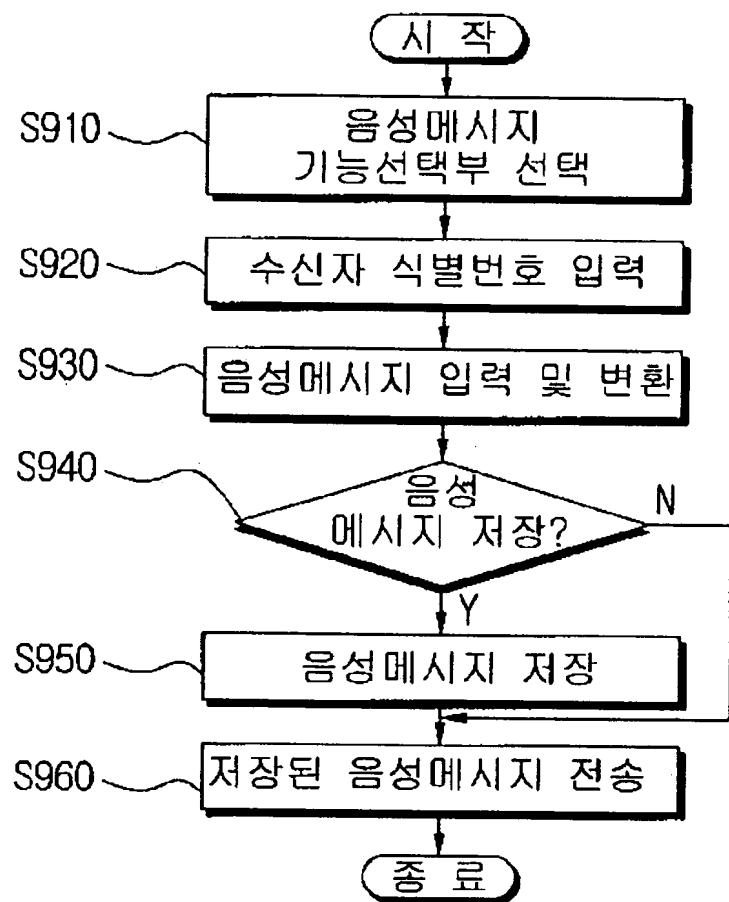


Fig. 10

